



# developing your films

Stephanie Gilbert

I feel that I should admit that until recently I was the sort of person who ignominiously shuffled in to a chemist clutching my camera, and got them to choose the film, put it in and later take it out, develop and print it. Anything to do with photography had always held great horrors and mysteries for me. However, due to the infinite patience of two photographers, Angela Phillips and Fran McLaine, we managed to compile this article, and conquer a few of my fears..

Developing really isn't difficult, but, as with most things, needs patience, practice and a close watch on the instructions.

**\*\* FILMS :** There are infinite types of film all designed for different conditions. Two good average ones are :  
ILFORD FP4, and KODAK PLUS X.

## equipment that you need

### DEVELOPING TANK

These are usually black plastic and come in lots of different sizes and makes, ranging in price from £2 to £4. Some of the larger ones are sold separate to the spirals so check.. The most well-known and available ones seem to be PATERSONS, JOBO, or COMBINA. A firm JOHNSONS used to do a very good standard range of equipment and chemicals, but they were recently bought up by an american firm HESTAIRS who have stopped producing them.

Probably the best to start with is PATERSONS UNIVERSAL, MULTI-UNIT 1...£2.51p. (multi-unit refers to the number of spirals you can fit in a tank, and therefore the number of films you can develop at once.)

Many professionals use metal tanks, but the are expensive and more difficult to use.

AGFA do a 'daylight loading tank', but again it is much more expensive, and tricky to use.

### THERMOMETER

A darkroom NOT a clinical one. Between 60 and 90 degrees F.

### MEASURING CYLINDER

And also an ordinary measuring jug. If developing a large number of films you will need large ones; it tells you on the bottom of the developing tank, the quantity of liquid you will need to develop each film. Average 300ml for 35mm film, and 500ml for a 120 film. Most instructions are now in milli-litres or cc not in fluid ounces.

### CLOCK

Properly known as a darkroom timer, it is in fact a clock with a large face and a sweep second hand. SMITHS do a good cheap one, as in the photo above.

### LOADING BAG

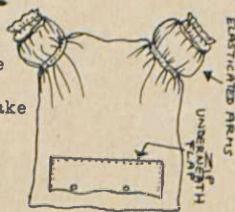
For loading the film onto the spiral that goes in the tank. This can be done in a dark-room, but if you haven't one you will need a bag, large enough to take a developing tank.. around £5.50p. (Under the bed-clothes WONT do, mainly because of the dangers of dust..)

### CLIPS

The most usefull ones are small bulldog clips to hang up the negatives while drying. You will need one for each end of the film. You can use clothes pegs.

### BITS & PIECES

A BOTTLE OPENER, for taking the top off the film cassette, A pair off SCISSORS, at least TWO LIGHTPROOF BOTTLES to keep chemicals in, a deep SINK with easy access to running water, a clean FUNNEL for pouring into those bottles..



# SPARE

## CHEMICALS

### DEVELOPER AND FIXATIVE.

Some photographers like to use a STOP BATH which is a chemical that helps retard development, and also removes developer liquid so that it doesn't pollute the fixative. Use is optional as you can use nice cheap running water...

### \*DEVELOPER.

This is a chemical that is bought either in concentrated liquid or powder form. Both therefore have to be mixed up into a working solution. Neither store or last well, the powder is the most stable, so at first if not doing a lot of developing regularly, buy in the smallest quantities possible.

You will find that each photographer has her/his own favorite developers for the different types of film and refinement required. To start with it is probably best to use a developer the same make as your film, as the instructions will be compatible and easier to follow.. There are innumerable different types.. Patersons, Tetenal, May & Baker, and the standard Ilford ID11, or PQ Universal, or Kodak D76... Probably the best for basic use is the Ilford PQ Universal.. (300cc = 49p) This is sold in highly concentrated liquid form.

(Universal means that it can be used as both a film and print developer. Unless it says 'Universal' check that you have the right one.)

The liquid ones are less of a hassle to use as the powder must be very well mixed or strained before use. You will need a lightproof bottle to keep your working solution in.

### \*FIXATIVE

Again available in powder or liquid forms. The powder is about half the price of the liquid, but for speed and convenience the liquid is easier.

However, I was told "don't get bamboozled into buying high/speed, fast acting liquid fix as leaving it longer to fix doesn't affect the quality of the film.."

Either way you usually have to mix it up in light proof bottle as the liquid is normally concentrated. Try to mix up only what you will need as, although it keeps better than the developer, it does deteriorate in time.

\*If the solution IS kept, try to keep the bottle full as it is the air that damages it.

(May & Bakers AMFIX : high speed liquid fix.. 46p)

All PATERSONS chemicals are very good. And all chemicals are much cheaper in large quantities.

## loading the film onto the spiral

THIS IS THE ONLY PART OF THE OPERATION THAT MUST BE DONE IN THE DARK : in a loading bag or dark-room.

It is also the only really tricky part.

### PRACTISE FIRST, in the dark..

..you will find out why as soon as you try it.. It is even worth buying and wasting a film if you haven't got one to practise on.

\* If using a cassette (a roll of film in container) you have to get the film out of the container. When winding film back, in the camera, stop as soon as you hear it click so that you leave yourself a bit of film protruding

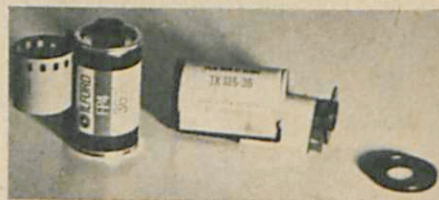
In the loading bag, or at hand in the dark room, you must have : ALL parts of the TANK, the film CASSETTE, a SCISSORS a BOTTLE OPENER.

\*Some people don't take the film out of the container as it tends to unroll immediately, but feed it direct onto the spiral as shown in the photo. (NEXT PAGE)

Others remove the lid of the cassette with a bottle opener and slide the film out.

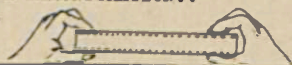
\* A tapered end of film faces you. Cut this off square.

\* This square end must be introduced into the spiral.



THIS PROCEDURE IS HORRIBLY DIFFICULT TO DESCRIBE. PLEASE ASK SALESMAN OF YOUR TANK FOR A DEMONSTRATION..

ALWAYS HOLD FILM BY THE EDGES, NOT OVER THE MIDDLE, EXCEPT AT EXTREME ENDS.



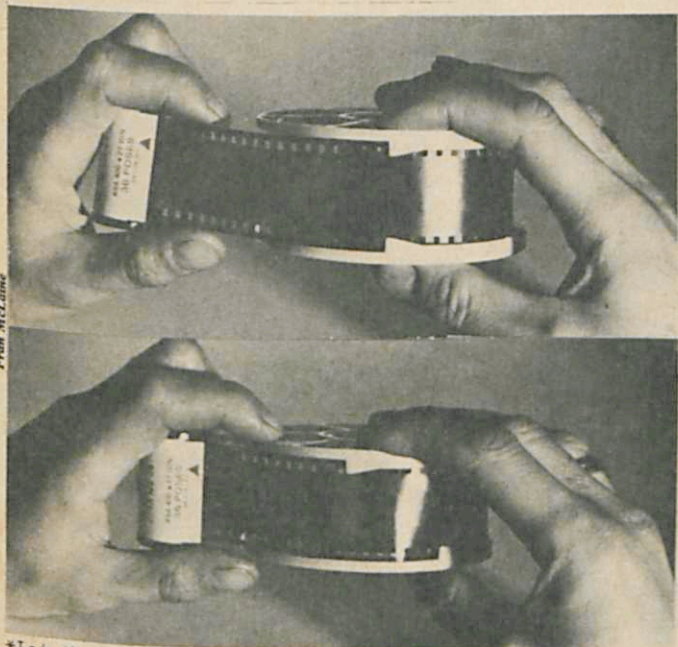
\*The SPIRAL: Twist the two circles round till the two ball-bearings embedded in the plastic are opposite each other.

\*Just in front of them you will find the entry slot for the film. Feed the film in gently holding it as in photo. Feed it in about 5".

\*The circles of the spiral move away from each other in opposite directions.. then click, swivel, click, swivel, click.. and the film feeds itself in.. Manipulate it with your thumb moving back and forth.



# PARTS



From McLaine

- \*Let the action be as smooth as possible, and keep the film parallel to the swivel. If it twists, it comes out..
- REMEMBER..** this is why you MUST practise first..
- \*Make sure film is completely onto spiral. Cut it off from cassette reel, being careful not to leave any tape on end.
- \*Still in the dark, or in the bag, make sure you haven't dropped anything in the tank. The plastic CORE fits onto a peg at bottom of tank.
- \*Push the spiral onto it, push it to bottom of tank.
- \*Holding it firmly on peg, push on the plastic clip down to the spiral.
- \*Put on internal tank lid, and FIRMLY SCREW on external tank lid. Beware of screw thread. Make sure it's on properly.
- \*Put on tank cap.
- \*YOU MAY NOW OPEN THE BAG.. or switch on lights.

## prepare the chemicals

After loading your film in the tank, you should prepare your developer and fixative (and the STOP BATH if using it). The film won't mind waiting and if the room is the right temperature it will stop the tank cooling the liquids as you pour them in.

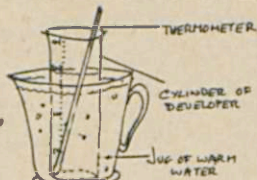
\***DEVELOPER**: there are always instructions in the package, and a chart that will give you the correct temperature and developing time for your make and speed of film. Generally speaking the correct temperature is 68 degree F, (or 20 degree C) Look down the chart for your make of film, (TRI X, PLUS X, HP4, FP4, ect..) and read across the developing time.

The instructions will also give you the correct dilution with water for the concentrated and powder forms. Mix only as much as you need as it keeps even less well diluted or mixed.

Put your measuring cylinder of developer in a jug of warm water to heat it to required temperature. Check it with your thermometer, this must be accurate.

\***FIXATIVE**. Prepare it as per instructions.

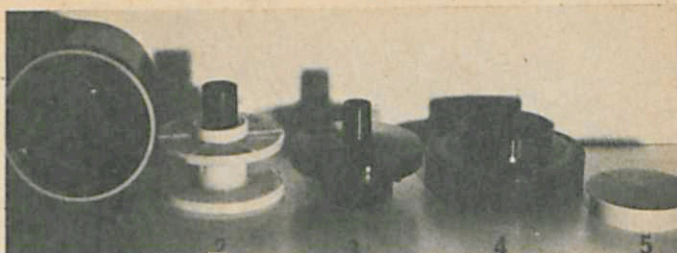
These chemicals can be used again. But **BEWARE**, they don't keep well and do wear out. Check your instructions carefully for details on this.



## ready.. steady.. go..

Check the temperatures of your liquid.

- \*get your CLOCK ready.
- \*Remove the tank cap (NOT the whole lid)
- \*Pour in developer quickly before the temperature changes.
- \*Start timing from the SECOND you start pouring.
- \***REPLACE CAP.**
- \***AGITATE.** Check exact instructions, but generally you invert the tank back and forth for first 30 sec and tap it gently on table to help eliminate air bubbles. Then rock tank back and forth every minute till time is up.
- \*Empty tank, as quick as possible (back into working solution bottle or down sink dependant on type of developer)
- \*Pour running cold water into tank for two minutes. (If using STOP BATH, this should have been mixed ready and used now as instructed.)



PATERSONS MULTI-UNIT TANK £2.51p. Showing:

1. the tank on it's side.
2. a spiral, slotted onto the CORE, and held in place by the white plastic clip.
3. the internal tank lid that holds the core steady in the tank
4. the external tank lid.
5. the tank cap that you remove only when pouring in liquid

- \*Empty tank completely and pour in fixative. This can be left 5 to 10 minutes depending on type and age of fix.
- \*Pour fix back into your working solution bottle.
- \*You can now take off LID off tank.

You can, at this stage, take out the spiral and VERY GENTLY pull out the first negative. If it is at all cloudy, not a clear image, then it is not properly fixed. If so, replace in tank, pour back fix, wait a few minutes longer. As the fix gets older, the fixing time takes longer and it is eventually ineffective and must be renewed. If you have been nosey and pulled out the whole negative strip, it is extremely difficult to replace it so don't..

\*Leave the lid off the tank and pour in running cold water for about 20 minutes. DON'T skimp on this. All traces of chemicals MUST be washed off.

\*Add 2 drops of washing up liquid to the water. Swivel spiral around just enough to mix it, but not make it frothy. (Don't get talked into buying PHOTO FLO' as sold in shops; is almost identical to wash-up liquid.)

\*Remove spiral and gently unwind the film. Hang it up with your bulldog clips, ONE AT EACH END.

\*You can remove any large droplets of water with clean damp chamois or viscose sponge. These drops can dry leaving patches on your negatives.

COMBINA X DOUBLE TANK with an automatic film loader to feed film onto the spirals.



## HANGING PLACES

\***DUST PROOF.** (Bathrooms are quite good..) If doing a lot of films at once, prepare a string to hang them all from.

Leave to dry for at least 1hr (if not 2 or 3 hrs) with the door shut to keep out cats, dogs or friends..

\*To test that it is dry touch with the finger, preferably NOT on the emulsion (dull side) as this damages most easily.

\*When completely dry, cut into lengths and slide into your protective negative sheets.

\*\* Even if it feels dry, it takes a while for the emulsion to harden, so don't be impatient. DON'T force drying with a fan heater..it just blows dust all over it..

## CLEANING UP

It is very important that all traces of chemical are removed from all your equipment..spiral, tank, measuring jugs ect.. ALSO, don't store the clip that holds the spiral in place, on the core., as this will stretch it.

## BAD NEGATIVES

Streaky ones, blotchy ones, dense grey ones.. There are a multitude of things that can go wrong. BUT, if you are careful, follow the instructions, use the right temperature liquids etc, they should be OK.

## dust: your great enemy

KEEP EVERYTHING CLEAN..try to work in a dust free room.

## CHEMICALS

These do wear out. Follow instructions as to when they wear out, and use them at correct temperature.

## printing

Obviously once you've got as far as developing your own, you're going to want to print, and this is where all the creative bit comes in. You would then need to invest in a dark room and all the equipment. By far the best way to start is to join a local club, or go along to EVENING classes. At least there you have access to all their equipment and specialised help. Unfortunately I have never heard of any classes run by women photographers, and male ones tend to be a particularly sexist breed.. but they do so love expounding all their knowledge, so you will learn. if you can bear it.



Page	Title	Author	Rights
30	Developing your films	Gilbert, Stephanie	Usage Terms: The copyright status of Developing your films is unknown. Please contact copyright@bl.uk with any information you have regarding this item.
31	Developing your films	Gilbert, Stephanie	Usage Terms: The copyright status of Developing your films is unknown. Please contact copyright@bl.uk with any information you have regarding this item.
31	Photographs by Fran McLaine	McLaine, Fran	Usage Terms: The copyright status of Photographs by Fran McLaine is unknown. Please contact copyright@bl.uk with any information you have regarding this item.